

Reference Number: H92001775A

Dispatch Number: 251469

Mailing Date: July 22, 2003

Office Action

Patent Application Number: 181027/2001

Drafting Date: July 14, 2003

Examiner of the Patent Office: Takahiko Tooyama 9855 5J00

Agent for the Applicant: Yasuo Sakuta

Applicable Article: Paragraph 2 of Article 29

The present application should be rejected for the following reason. If the applicant has an opinion on the examiner's reason for rejection, the applicant can file an argument within 60 days from the mailing date of this office action.

Reason for rejection

Because the inventions claimed in the following claims of the present application could be easily made before its filing by a person having common knowledge in the technical field of the invention on the basis of the inventions disclosed by the following publications distributed in Japan and abroad, they are deemed unpatentable in accordance with Paragraph 2 of Article 29 of the Patent Law.

(For cited references, refer to the list of cited references.)

- Claims 1 to 4
- Cited references 1 and 2
- Remarks

Reference 1 describes an optical repeater which receives an optical data signal (main signal λ_1) as a wavelength-division multiplexed signal and a first optical supervisory signal (optical wavelength λ_2 carrying all fault search current information) and multiplexes and transmits the amplified optical data signal (main signal λ_1) and a second optical supervisory signal (optical wavelength λ_2 carrying all fault search current information). This optical repeater comprises the following: an amplifier which outputs an optical data signal (main signal λ_1); a demultiplexer (demultiplexer

34) which divides (demultiplexes) the optical data signal (main signal λ_1) and the first optical supervisory signal (optical wavelength λ_2 carrying all fault search current information); an optical receiver (optoelectric converter 44) which receives the first optical supervisory signal (optical wavelength λ_2 carrying all fault search current information) from the demultiplexer and converts it into a first electric supervisory signal (f_1, f_2, f_3 fault search current information); a controller (fault search current oscillator I4, etc) which receives the first electric supervisory signal from the optical receiver and outputs a second electric supervisory signal (f_1, f_2, f_3, f_4 fault search current information) to an optical transmitter (optical modulator 64); an optical transmitter (optical modulator 64) which converts the second electric supervisory signal from the controller into a second optical supervisory signal and outputs it to a third multiplexer (multiplexer 24); and the third multiplexer (multiplexer 24) which multiplexes the amplified optical data signal (main signal λ_1) with the second optical supervisory signal outputted from the optical transmitter (optical modulator 64). Here, the controller (fault search current oscillator I4, etc) adds supervisory information to the second electric supervisory signal.

As a result of comparison between the inventions claimed in Claims 1 to 4 of the present application and the invention described in Reference 1, it is concluded as follows.

While, in the inventions claimed in Claims 1 to 4 of the present application, a doped optical fiber and a first and a second exciting light source are provided, regenerating/repeating is performed in the invention described in Reference 1. However, it is well known to those skilled in the art that an optical repeater has a doped optical fiber and a first and a second light source, as indicated in Reference 2 (see Fig.5). Therefore, a person skilled in the art can easily think of employing an optical amplifier as described in Reference 2 in place of an amplifier as described in Reference 1 and make the inventions claimed in Claims 1 to 4 of the present application.

If a new reason for rejection is found, the applicant will be notified of it.

List of cited references

1. Japanese Unexamined Patent Publication No.083899/1982
2. Japanese Unexamined Patent Publication No. 029123/1993

Record of prior art literature search result

Field of investigation: IPC Edition 7 H04B 10/00-10/28
H04J 14/00-14/08

Prior art literature: Japanese Unexamined Patent Publication No. 022925/1992
Japanese Unexamined Patent Publication No. 270520/1991
Japanese Unexamined Patent Publication No. 214936/1991

This record of prior art literature search result does not constitute a reason for rejection.

For inquiries on this office action, please contact:

Takahiko Tooyama
Patent Examination Dept. IV (Transmission System)
Phone 03-3581-1101 (Ext. 3535)
Fax 03-3501-0699